

REMARKS

The present application was filed on August 9, 2001 with claims 1 through 20. Claims 1 through 20 are presently pending in the above-identified patent application. Claims 2-4, 10-12, and 18 are proposed to be amended, and claims 1, 5-7, 9, 13-15, 17, and 19 are proposed to be cancelled herein.

In the Office Action, the Examiner required the restriction of the claims to one of the following inventions under 35 U.S.C. §101: claims 1-7, 9-15, and 17-19 drawn to methods, systems, and articles of manufacturing for programming a software component, classified in class 717, subclass 107; claims 8, 16, and 20, drawn to a method, a system, and an article of manufacturing for posting a message to a group, classified 717, subclass 120. The Examiner rejected claims 1-3, 9-11, and 17 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention and rejected claims 1-17 under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. The Examiner rejected claims 4-7, 12-15, and 18-19 under 35 U.S.C. §102(b) as being anticipated by Magee et al. ("Composing Distributed Object in CORBA," 1997 IEEE) and rejected claims 1-3, 9-11, and 17 under 35 U.S.C. §103(a) as being unpatentable over Magee et al., in view of Jamil et al. ("A Declarative Semantics for Behavioral Inheritance and Conflict Resolution," 1995 SiteSeer).

The present invention is directed to a method and apparatus for programming software components that treats software components as the basic unit of abstraction and computation. A software component is encapsulated and classes and other program entities, such as data fields and methods, within a given component do not exist beyond a component boundary. A component interacts with other components only by means of a defined set of input and output ports. A component can inherit and implement ports declared in a template and can declare and implement new ports. A component can only access the external environment through its output ports. An output port of one component can only be connected to a conforming input port of another component. A connect statement is an explicit plumbing operation for connecting components together. Interactions between components are loosely coupled. A related

set of templates can be grouped together to form a group. Groups are useful for implementing implicit invocation and multicasting.

The specification has been amended to correct typographical errors.

Election of Claims

5 The Examiner required the restriction of the claims to one of the following inventions under 35 U.S.C. §101: claims 1-7, 9-15, and 17-19 drawn to methods, systems, and articles of manufacturing for programming a software component, classified in class 717, subclass 107; claims 8, 16, and 20, drawn to a method, a system, and an article of manufacturing for posting a message to a group, classified 717, subclass 120.

10 Applicants hereby affirm the election of the claims of Group I with traverse and withdraw the claims of Group II, without prejudice.

Section 101 Rejections

15 Claims 1-17 were rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter and asserts that claims 1-7 are manipulating an abstract idea.

The Supreme Court has stated that the "[t]ransformation and reduction of an article 'to a different state or thing' is the clue to patentability of a process claim." *Gottshalk v. Benson*, 409 U.S. 63, 70, 175 U.S.P.Q. (BNA) 676 (1972). In other words, claims that require some kind of transformation of subject matter, which has been held to
20 include intangible subject matter, such as data or signals, that are representative of or constitute physical activity or objects have been held to comply with Section 101. *See, for example, In re Warmerdam*, 31 U.S.P.Q.2d (BNA) 1754, 1759 n.5 (Fed. Cir. 1994) or *In re Schrader*, 22 F.3d 290, 295, 30 U.S.P.Q.2d (BNA) 1455, 1459 n.12 (Fed. Cir. 1994).

25 Thus, as expressly set forth in each of the independent claims, the claimed methods or system describe a method for programming a software component that instantiates a software component and attaches an input port to a class utilizing an attach command, thereby transforming the instantiated software component. This instantiation of a software component and transformation of the software component (and input port)
30 provides a useful, concrete and tangible result.

Applicants submit that each of the claims following entry of the amendments, i.e., claims 2-4, 10-12, and 18, are in full compliance with 35 U.S.C. §101, and accordingly, respectfully requests that the rejection under 35 U.S.C. §101 be withdrawn.

5 Section 112 Rejections

Claims 1-3, 9-11, and 17 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the Examiner asserts that claims 1, 9, and 17 are indefinite because it is “not known what the functionality of ‘properties’ in which it got ‘inherited’ then prevented from ‘inheritance’ is.”

Claims 1, 9, and 17 have been cancelled. Applicants respectfully request that the rejection under 35 U.S.C. §112 be withdrawn.

Independent Claims 1, 4, 5, 9, 12, 13, and 17-19

15 Independent claims 4, 5, 12, 13, and 18-19 were rejected under 35 U.S.C. §102(b) as being anticipated by Magee et al. and claims 1, 9, and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Magee et al., in view of Jamil et al.

Regarding claim 4, the Examiner asserts that Magee discloses providing a software mechanism for instantiating said software component.

20 Independent claims 4, 12, and 18 have been amended to require utilizing an attach command to attach at least one of said at least one input port to a class. Support for this amendment can be found on page 12, lines 5-10, of the original specification. Applicants note that Magee does not utilize an explicit command to attach an input port to a class, and thus the implementation cannot change at run time. Independent claims 1, 5, 9, 13, 17, and 19 are proposed to be cancelled herein.

25 Thus, Magee does not disclose or suggest utilizing an attach command to attach at least one of said at least one input port to a class, as required by independent claims 4, 12, and 18, as amended.

Dependent Claims 2-3, 6-7, 10-11 and 14-15

Dependent claims 6-7 and 14-15 were rejected under 35 U.S.C. §102(b) as being anticipated by Magee et al. and claims 2, 3, 10, and 11 were rejected under 35 U.S.C. §103(a) as being unpatentable over Magee et al., in view of Jamil et al.

5 Following entry of the amendments, claims 2-3 and 10-11 will be dependent on claims 4 and 12, respectively, and are therefore patentably distinguished over Magee et al. and Jamil et al. (alone or in any combination) because of their dependency from amended independent claims 4 and 12 for the reasons set forth above, as well as other elements these claims add in combination to their base claim. Claims 6,
10 7, 14, and 15 have been cancelled.

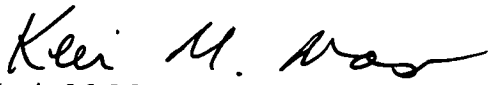
All of the pending claims following entry of the amendments, i.e., claims 2-4, 10-12, and 18, are in condition for allowance and such favorable action is earnestly solicited.

15 If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

Respectfully submitted,

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Kevin M. Mason
Attorney for Applicants
Reg. No. 36,597
Ryan, Mason & Lewis, LLP
1300 Post Road, Suite 205
Fairfield, CT 06824
(203) 255-6560